

Applicant : Stefan Hein
Appln. No. : 10/574,867
Page : 2

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1-13. (canceled)

14. (currently amended) An air-lock valve comprising:

a housing having an opening configured to be traversed by a flexible band substrate;

and

at least one moveable sealing body cooperating with a sealing surface of the housing for closing the opening during a closing phase of the air-lock valve, with the band substrate being clamped between the at least one movable sealing body and the sealing surface;

wherein the sealing surface surrounds the opening ~~in a frame-like fashion~~, and the opening is closed ~~vacuum-tight~~ by pressing the at least one movable sealing body upon the sealing surface and/or upon the band substrate traversing the opening such that the at least one movable sealing body closes the opening at least through indirect abutting at edges of the sealing surface; and

wherein the at least one movable sealing body and the sealing surface each have an arcuate contour and a radius of the sealing surface is larger or equal to the radius of the at least one movable sealing body.

15. (previously presented) The air-lock valve according to claim 14, wherein:

the band substrate may be forced through the at least one movable sealing body against a sealing edge of the opening at the sealing surface, such that, in the area of the sealing edge, a tangent of the at least one movable sealing body produces an obtuse angle towards the longitudinal or traversing direction of the band substrate.

Applicant : Stefan Hein
Appln. No. : 10/574,867
Page : 3

16. (previously presented) The air-lock valve according to claim 15, wherein:
the at least one movable sealing body and the sealing surface each have an arcuate contour and a radius of the sealing surface is larger or equal to the radius of the at least one movable sealing body.
17. (previously presented) The air-lock valve according to claim 16, wherein:
the sealing surface and/or the at least one movable sealing body are provided with an elastically flexible surface material.
18. (previously presented) The air-lock valve according to claim 16, wherein:
the at least one movable sealing body comprises a cylindrical roll.
19. (previously presented) The air-lock valve according to claim 15, wherein:
the at least one movable sealing body comprises a cylindrical roll.
20. (previously presented) The air-lock valve according to claim 15, wherein:
the sealing surface and/or the at least one movable sealing body are provided with an elastically flexible surface material.
21. (canceled)
22. (currently amended) The air-lock valve according to ~~claim 21~~claim 14, wherein:
the at least one movable sealing body comprises a cylindrical roll.
23. (previously presented) The air-lock valve according to claim 22, wherein:
the sealing surface and/or the at least one movable sealing body are provided with an elastically flexible surface material.

Applicant : Stefan Hein
Appln. No. : 10/574,867
Page : 4

24. (previously presented) The air-lock valve according to claim 14, wherein:
the sealing surface and/or the at least one movable sealing body are provided with an elastically flexible surface material.
25. (previously presented) The air-lock valve according to claim 14, wherein:
the sealing surface comprises a planar, flexible material, being tightly connected, with a wall section in frame-like fashion in an area of a circumferential border of the opening.
26. (previously presented) The air-lock valve according to claim 14, wherein:
the at least one movable sealing body is a single cylindrical roll configured to close the opening.
27. (previously presented) The air-lock valve according to claim 14, wherein:
the at least one movable sealing body is rotably mounted.
28. (previously presented) The air-lock valve according to claim 14, wherein:
the at least one movable sealing body is moved between an inactive and a closed position by a separate power drive.
29. (previously presented) The air-lock valve according to claim 28, wherein:
the separate power drive is provided at or inside the housing.
30. (previously presented) The air-lock valve according to claim 14, wherein:
the at least one movable sealing body is firmly tightened against the sealing surface with a predetermined bearing load by an accumulator.
31. (currently amended) A processing plant for traversing band-like substrates comprising:
at least one evacuable processing chamber;

Applicant : Stefan Hein
Appln. No. : 10/574,867
Page : 5

at least another chamber associated with the at least one evacuable processing chamber for unrolling or winding up the band substrate;

the chambers are interconnected through an opening through which the band substrate is guided; and

at least one air-lock valve provided at the opening;

the at least one air-lock valve comprising:

a housing having the opening; and

at least one moveable sealing body cooperating with a sealing surface of the housing for closing the opening ~~vacuum-tight~~ during a closing phase of the air-lock valve, with the band substrate being clamped between the at least one movable sealing body and the sealing surface;

wherein the sealing surface surrounds the opening ~~in a frame-like fashion~~, and the opening is closed by pressing the at least one movable sealing body upon the sealing surface and/or upon the band substrate traversing the opening such that the at least one movable sealing body closes the opening at least through indirect abutting at edges of the sealing surface; and

wherein the at least one movable sealing body and the sealing surface each have an arcuate contour and a radius of the sealing surface is larger or equal to the radius of the at least one movable sealing body.

32. (previously presented) The processing plant according to claim 31, wherein:

the at least one movable sealing body of at least one air-lock valve and the sealing surface are turned towards the at least another chamber to be occasionally ventilated.

33. (previously presented) The processing plant according to claim 31, wherein:

the at least one movable sealing body comprises a cylindrical roll.

Applicant : Stefan Hein
Appln. No. : 10/574,867
Page : 6

34. (previously presented) The air-lock valve according to claim 31, wherein:
the at least one movable sealing body is moved between an inactive and a closed position by a separate power drive.
35. (previously presented) The air-lock valve according to claim 31, wherein:
the at least one movable sealing body is firmly tightened against the sealing surface with a predetermined bearing load by an accumulator.
36. (previously presented) The air-lock valve according to claim 31, wherein:
the at least one movable sealing body is a single cylindrical roll configured to close the opening.
37. (previously presented) The air-lock valve according to claim 14, wherein:
the sealing surface surrounding the opening is arcuate and the body is a cylindrical roll configured to engage the arcuate sealing surface.
38. (previously presented) The processing plant according to claim 31, wherein:
the sealing surface surrounding the opening is arcuate and the body is a cylindrical roll configured to engage the arcuate sealing surface.
39. (previously presented) The air-lock valve according to claim 14, wherein:
the at least one movable sealing body closes the opening by abutting the sealing surface to wholly overlap the opening.
40. (previously presented) The processing plant according to claim 31, wherein:
the at least one movable sealing body closes the opening by abutting the sealing surface to wholly overlap the opening.

Applicant : Stefan Hein
Appln. No. : 10/574,867
Page : 7

41. (previously presented) The air-lock valve according to claim 28, wherein:
the at least one movable sealing body is spaced from the sealing surface and configured
to be spaced from the flexible substrate when in the inactive position.

42. (previously presented) The air-lock valve according to claim 34, wherein:
the at least one movable sealing body is spaced from the sealing surface and configured
to be spaced from the flexible substrate when in the inactive position.